ET-66 December 1935

United States Department of Agriculture
Bureau of Entomology and Plant Quarantine

AN OVIPOSITORY FOR FULLER'S ROSE BEETLE

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Insect Investigations

The parthenogenetic females of Fuller's rose beetle, Asyonychus godmani (Crotch), deposit eggs in masses of from a few to nearly 100, in soil and bark crevices and in leaf axils or leaf folds on the plant. When confined, they place their eggs on the smooth glass cages or between the screen and any metal support on ordinary cages. A frothy secretion, which hardens upon drying, surrounds the eggs and cements them into one mass so that they cannot be readily removed from their substratum or separated for counting, even if soaked in water or a weak solution of an acid or an alkali, such as hydrochloric acid or potassium hydroxide. The masses have had to be incubated to obtain records on the hatching larvae for determination of the rate of oviposition.

While the writer was conducting life-history studies on this insect during 1926-1929 as an employe of the Pennsylvania Bureau of Plant Industry, these difficulties were almost completely overcome by the following methods:

The insects were discouraged from depositing eggs on the host by providing young unbranched Cuphea ignea (fiery cuphea or firecracker plant) as food. Deposition on the cages was prevented by using a cage made entirely of screen without soldering or metal supports (fig. 1). The plants were potted in heavy soil the moistened surface of which could be pressed smooth and, later, kept from shrinking and cracking by regular watering, thus preventing egg laying in the soil crevices.

A highly attractive crevice, into which the insects placed from 95 to 100 percent of their eggs, was provided by splitting, for part of its length, a small piece of wood, such as a section of pot label. A paper clip, fitted in the cleft and on the outside of the piece of wood, held the cleft open at the desired width. When forced into the soil the clip also served as support (fig. 3) for the ovipository. The adults usually inserted the ovipostor at a point in the crevice where the width was approximately equal to the diameter of the oblong-oval eggs. The eggs were therefore arranged in one layer, so that by opening up the crevice all eggs were in view and could be counted directly (fig. 2). When retained for incubation records, the eggs were cut out on a chip of wood and placed in vials, and the ovipository was replaced with a new one.

More recently, G. N. Wolcott (Otiorhynchids Deposit Between Paper. Jour. Econ. Ent. 26: 1172-1173. 1933) took advantage of the habit of another weevil (Diaprepes abbreviatus L.) of ovipositing in crevices as a means of direct control. The adults placed their eggs in crevices formed by folded strips of paper attached to stakes in a citrus nursery. Upon hatching, the larvae died because of their inability to chew through the paper or the cementing material surrounding the eggs.

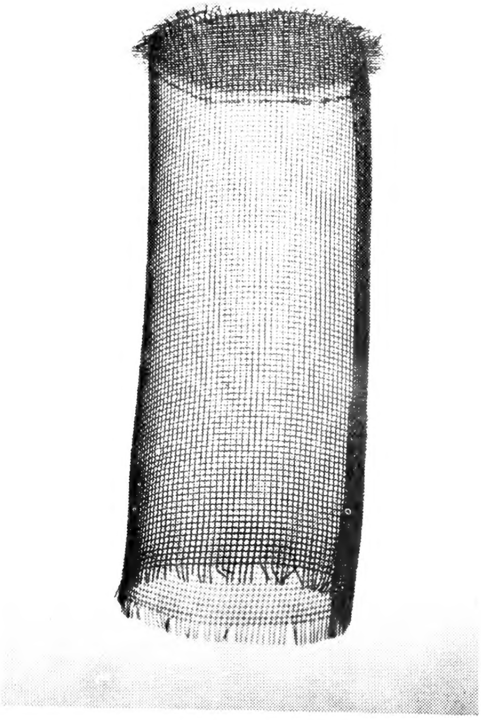

Figure 1.--Cage made entirely of screen by hooking opposite sides together to form a cylinder and attaching a top in the same manner.

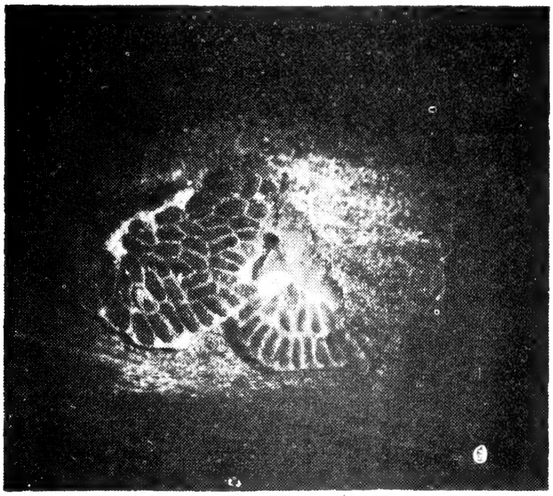

Figure 2.--Group of eggs with cementing material exposed in a single layer when the ovipository is opened.

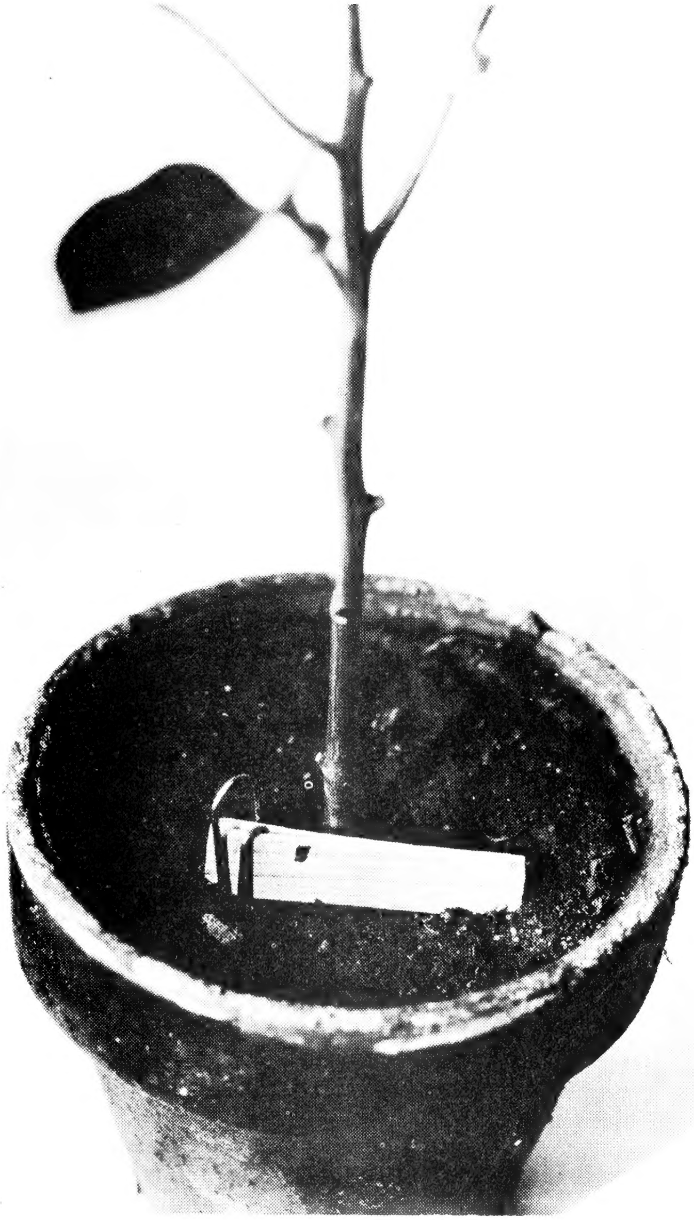

Figure 3.--Ovipository made by splitting a strip of wood and inserting a paper clip. Eggs were deposited in the cleft at about the point indicated by the black mark on the wood.